

## REMARKS/ARGUMENTS

The Office action dated August 4, 2010 has been received and carefully considered. By this amendment, Claims 1 and 11 are amended. No new Claims have been added. After entry of this Amendment, Claims 1-20 will be pending. In view of these amendments and the following remarks, Applicants respectfully request reconsideration.

### Claim Objection

The Office objected claims 1-10 as lacking antecedent basis for the term "the distillation column". Applicant agrees and amended the claim as suggested by the examiner.

### 35 USC §103

The Office rejected **claims 1-5 and 7-10** as being obvious over Yao (U.S. Pat. No. 6,166,050) in view of Jain et al. (U.S. Pat. No. 6,453,698) and Campbell et al (U.S. Pat. No. 5,771,712). The applicant respectfully disagrees for various reasons, especially in view of the amendments herein.

(a) The examiner correctly stated on page 3 of the instant action that "...Yao does not explicitly disclose the absorber receiving a second portion of a distillation column overhead..."

In support of a combination with Campbell, the examiner noted that while *Campbell does not disclose the absorber separately receiving the first and second portion of a distillation column overhead*, streams 38 and 39 in Figure 1 of Campbell *may* be routed to separate locations and argued that "...it would be obvious to one skilled in the art at the time of invention that the streams 38, 39 of FIG. 2 could be independently routed to the absorber 15 because the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of invention..."

Such argument is technically incorrect for various reasons. First, it is noted that stream 38 in Figure 1 of Campbell is the residue gas, while stream 39 in Figure 1 is used as a reflux for the absorber and the distillation column. Similarly, streams 38 and 39 in Figure 2 of Campbell are as a reflux for the absorber and the distillation column, respectively. In contrast, it is entirely

inconceivable to provide a reflux stream as taught by Campbell as an absorber bottom feed stream as presently claimed. Second, it is therefore also pointed out that there is a substantial change in function, as the absorber bottom feed of the claimed subject matter is used as superheated feed rather than subcooled reflux. Thus, while one could have modified Yao with the teachings of Campbell, one would not have arrived at the subject matter as presently claimed.

(b) The examiner correctly stated on page 4 of the instant action that "...Yao also does not explicitly disclose controlling a ratio of at least one of the first and second portion of the feed gas vapor, the first and second portion of the feed gas liquid, and the first and second portion of the distillation column overhead as a function of a desired recovery rate of a feed gas component in a bottom product of the distillation column ..."

In support of a combination with Jain, the examiner noted that "...The general concept of controlling a ratio of at least one of the first and second portion of the feed gas vapor as a function of a desired recovery rate of a feed gas component in a bottom product of the distillation column falls within the realm of common knowledge as obvious mechanical expedient and is illustrated by Jain..."

However, it is noted that this fails to apply to the instantly claimed subject matter. While Jain indeed varies feed streams to the distillation column, it is for the purpose of controlling the composition leaving that same distillation column. In contrast, the claimed subject matter requires that the feed stream ratios to the absorber are changed such that the composition in the distillation column bottom product is varied. Thus, modification of Yao using the teachings of Jain would not result in the claimed subject matter.

While applicant acknowledges the detailed analysis by the examiner for the dependent claims, it is noted that the above arguments apply not only to claim 1, but also to all of the claims dependent thereon. Therefore, no further reasoning is provided for claims 2-5 and 7-10. For at least these reasons, the rejection of claims 1-5 and 7-10 should be withdrawn.

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The Office rejected **claim 6** as being obvious over Yao (U.S. Pat. No. 6,166,050) in view of Jain et al. (U.S. Pat. No. 6,453,698), Campbell et al (U.S. Pat. No. 5,771,712), and further

view of Becker (U.S. Pat. No. 4,695,349). The applicant once more respectfully disagrees for various reasons, especially in view of the amendments herein.

(a) As claim 6 is dependent on independent claim 1, the same defects and arguments as provided above apply and are not reiterated here.

(b) With respect to the motivation of the person of ordinary skill in the art to combined Becker with the remainder of the cited references, the examiner argued that "... One having ordinary skill in the art would have been motivated to include the use of a vapor stream from a distillation column overhead in order to further facilitate separation of materials or substances by *further lowering the temperature* of the gases in the absorber column..."(emphasis added).

While lowering the temperature of gases in the absorber column may be advantageous for Becker, it is pointed out that the vapor stream from the distillation column as presently claimed is used to raise the temperature (see *e.g.*, application, page 9, line 25 et seq.). Therefore, the motivation offered by the examiner is contrary to the claimed subject matter, and the rejection of claim 6 should be withdrawn.

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The Office rejected **claims 11-20** as being obvious over Yao (U.S. Pat. No. 6,166,050) in view of Jain et al. (U.S. Pat. No. 6,453,698). The applicant once again respectfully disagrees for various reasons, especially in view of the amendments herein.

(a) The examiner correctly stated on page 3 of the instant action that "...Yao fails to explicitly disclose using a flow ratio between the first and second portions to control recovery of a desired product in a bottom product of the distillation column..."

In support of a combination of Yao with Jain, the examiner noted that "...The general concept of using a flow ratio between the first and second portions of feed streams falls within the realm of common knowledge as obvious mechanical expedient and is illustrated by Jain..."

Once more, it is noted that Jain's teachings fails to apply to the instantly claimed subject matter. While Jain indeed varies feed streams to the distillation column, it is for the purpose of controlling the composition leaving that same distillation column. In contrast, the claimed

subject matter requires that the feed stream ratios to the absorber are changed such that the composition in the distillation column bottom product is varied. Thus, modification of Yao using the teachings of Jain fails to result in the claimed subject matter.

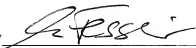
While applicant again acknowledges the detailed analysis by the examiner for the dependent claims, it is noted that the above arguments apply not only to claim 11 and 17, but also to all of the claims dependent thereon. Therefore, no further reasoning is provided for claims 12-16 and 18-20. For at least these reasons, the rejection of claims 11-20 should be withdrawn.

#### **Request For Allowance**

Claims 1-20 are pending in this application. The applicant requests allowance of all pending claims.

Respectfully submitted,  
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